

# AFS TRINITY

P O W E R C O R P O R A T I O N

NREL 16th Industry Growth Forum  
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Austin, TX

# Company Highlights

- Launching the most significant new development in UPS and power quality technology since the battery.
- Ideal timing for better power quality technology due to growing use of computers and vulnerability to blackouts.
- Addressable markets also include emerging distributed generation and hybrid vehicles applications.
- Strong management team in business, marketing and engineering.
- \$3.2 Million funding this year from CEC, DOE, DOT & NASA.

# Experienced Management Team

- **Edward W. Furia, Chairman & CEO**, was co-founder of American Flywheel Systems; formerly engaged in international trade among US, China and Japan; former Director of the US EPA for the Mid-Atlantic States.
- **Joel Levinthal, President & COO**, formerly VP for Engineering and then VP for Business Development at Allied Signal, now Honeywell.
- **Dennis Strouse, VP& General Manager, Livermore Operations**, formerly Director of Aerospace Electric Power Generation for AlliedSignal and then Honeywell.
- **Donald Bender, CTO**, formerly with Lawrence Livermore National Laboratory where he helped develop the Halbach Array flywheel design.
- **Dr. Edward S. Zorzi, VP and General Manager, Aerospace Technologies**, former General Manager of the Engineering and Technology Division of Mechanical Technologies and formerly at Garrett Air Research and GE.
- **Gerald Starr, Director of Marketing**, formerly with CellNet Data Systems and Pacific Gas & Electric Corporation.
- **Peter N. Rogers, CFO**, former Chairman, Nabisco Brands; former President, Standard Brands.

# Meeting a Need

## *Problem:*

- Power Interruptions cost the US economy \$50 billion each year. (EPRI, 1999)
- Level 3 Communications could save \$1.4 million/yr. if they could avoid UPS battery replacements & monitoring in their web hosting centers.
- Battery UPS systems at Web Hosting Centers take up valuable floor space, require special fire protection & hazardous material safety measures and can't endure many charge/discharge cycles.

## *Solution: The AFS Trinity flywheel UPS*

- No battery replacement, compact, lightweight, reliable and safe.

# Key Applications

Now:



UPS/ Power  
Quality



Industrial Power  
Management



Distributed Generation  
Load Following

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Future:



Hybrid Vehicles



Trackside Power  
Management



Aerospace/ Military  
(low power EMW)

# Early Focus on UPS Application

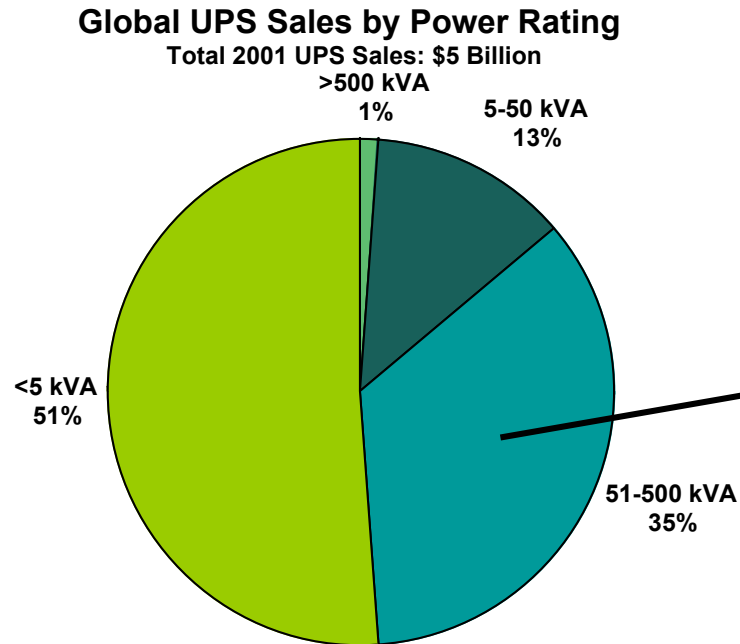
Key potential customers: web hosting centers, semiconductor fabs, banks, credit card processing centers, call centers, textile mills, mining operations, telephone switching centers and other key electronic infrastructure.

Mid-size UPS market is \$1.5 billion, growing at 6% per year. AFST initial product sized at 100 kW is ideal for these customers.

We have a uniquely disruptive *flywheel* UPS product. It is a direct replacement for the battery UPS for the same price.

Our main competitor, Active Power, attained a 1% market share 3 years after launch. We applaud them but will do even better.

# UPS Application

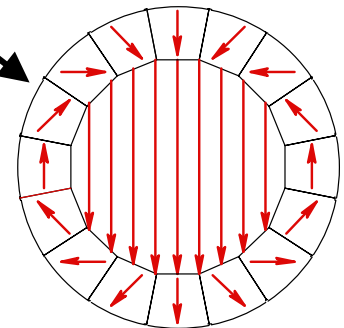


## Key mid-size UPS vertical segments:

- Transportation & Utilities
- Government & Military
- Internet Services
- Business Services
- Telecommunications
- Semiconductor Mfg.
- Medical

# Key Technologies & IP

- High speed carbon fiber rotor.
- Halbach array motor/generator.
- Active magnetic bearings.
- Bi-directional power converter.
- Exclusive license from Lawrence Livermore National Laboratory.
- Over 20 patents.





# First Product: M3 Flywheel Power System



Power and function equal to a 100 kW UPS battery pack in the space of a telephone booth (>50% size reduction).

Smaller and lighter than batteries, 20 year life instead of 3 year life, no hazardous materials. Unique fast recharge rate greatly expands addressable market.

Developed over 10 years under exclusive license from Lawrence Livermore National Laboratory.

Key technologies covered by patents or patents pending.

# Business Model

Our Technology can supply the highest performance flywheel power systems for power quality, measured by power-density, size and duty cycle based on our licensed technology.

Our customers are the facilities managers at web hosting centers and semiconductor fabs - whose mission critical electric power requirements demand the highest quality UPS technology.

We can match the initial cost of battery UPS systems with lower life cycle costs and better reliability.

Formed by the merger of American Flywheel Systems and Trinity Flywheel Power in 2000. Predecessor companies were formed in 1992 and 1993.

# Financial Projections

Five year business plan results in over \$0.5 Billion in revenue with positive net income in third year.

## Future Funding Requirements

- \$2M to finish focused field evaluation units for delivery to beta sites
- \$12M in 2004 to expand facilities and begin production
- \$20M in 2005 to increase production
- Strategic partnership, acquisition or IPO in 2006 to achieve full business plan potential

# AFS Trinity Power - Summary

We have pre-production flywheel power systems currently operating in- house.

We are ready to produce prototypes for beta site testing.

- Projecting 9-12 months after funding.

Beta test hosts, potential customers and distributors keep calling.

- Six planned beta test hosts.
- Over 200 customer inquires.

Our detailed business plan projects over \$0.5 Billion revenue in five years.